Amendments to the Claims:

Please cancel Claims 11, 28, 45, and 63 and amend Claims 1, 12, 15, 18, 29, 32, 35, 46, 49, 52, 63 and 66 as shown in the listing of the claims. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listings of Claims:

1.   (currently amended) A method of segmenting an image having a plurality of pixels, the method comprising:

dividing the image into a plurality of sticks of pixels, wherein each stick contains at least two pixels;

determining whether each stick belongs to any region from a set of region; and

classifying each stick that belongs to any region as belonging to a specific region of the set of ~~regions.~~ regions, wherein the classifying each stick that belongs to any region as belonging to a specific region of the set of regions comprises:

determining whether any member of a set of previously processed sticks belong to any region;

assigning an earliest region identifier of a set of previously processed sticks to the current stick when a member of the set of previously processed sticks belongs to any region and the current stick belongs to any region; and

assigning a new region identifier to the current stick when the current stick belongs to any region and no member of the set of previously processed sticks belongs to any region.

2.   (original) The method of Claim 1, wherein each pixel of each stick are from a single raster line.

3.   (original) The method of Claim 2, wherein each pixel of each stick are consecutive pixels of the single raster line.

4.   (original) The method of Claim 2, wherein a size of each stick is a multiple of a word size of a SIMD processor.

5.   (original) The method of Claim 1, wherein determining whether each stick belongs to any region from a set of region comprises:

   determining whether any pixel of a current stick belongs to any region; and

   classifying the current stick as belonging to any region when any pixel of the current stick belongs to any region.

6.   (original) The method of Claim 5, wherein the determining whether any pixel of a current stick belongs to any region comprises comparing a binary classifier input value with a threshold level.

7.   (original) The method of Claim 6, wherein the binary classifier input value is a color component.

8.   (original) The method of Claim 6, wherein the binary classifier input value is a luminance value.

9.   (original) The method of Claim 6, wherein the binary classifier is a chrominance value.

10.   (original) The method of Claim 5, wherein the determining whether any pixel of a current stick belongs to any region comprises:

comparing a first binary classifier input value with a first threshold level;

comparing a second binary classifier input value with a second threshold level.

11.   (canceled)

12.   (currently amended) The method of ~~Claim 11,~~ Claim 1, wherein the set of previously processed sticks comprises:

a preceding stick on the same raster row as the current stick;

a first stick on a preceding raster row; and

a second stick on the preceding raster row.

13.   (original) The method of Claim 12, wherein the first stick is in a same row position as the current stick and the second stick is in a following row position of the current stick.

14.   (original) The method of Claim 1, further comprising characterizing each region of the set of regions.

15.   (currently amended) ~~The method of Claim 14,~~ A method of segmenting an image having a plurality of pixels, the method comprising:

dividing the image into a plurality of sticks of pixels, wherein each stick contains at least two pixels;

determining whether each stick belongs to any region from a set of region;

classifying each stick that belongs to any region as belonging to a specific region of the set of regions; and

characterizing each region of the set of regions, wherein the characterizing each region of the set of regions comprises computing rectified moments for each region using a weighting table and unrectified image data.

16. (original) The method of Claim 15, wherein the weighted lookup table comprises pre-computed coefficient vectors.

17. (original) The method of Claim 16, wherein the pre-computed coefficient vectors are a product of a weight factor, a first pixel coordinate raised to a non-negative power, and a second pixel coordinate raised to a non-negative power.

18. (currently amended) A method of segmenting an image having a plurality of pixels, the method comprising:

dividing the image into a plurality of sticks of pixels, wherein each stick contains at least two pixels;

determining whether each stick belongs to any region from a set of region; and

classifying each stick that belongs to any region as belonging to a specific region of the set of regions, wherein each stick belongs to only one ~~region.~~ region, wherein the classifying each stick that belongs to any region as belonging to a specific region of the set of regions comprises:

determining whether any member of a set of previously processed sticks belong to any region;

assigning an earliest region identifier of a set of previously processed sticks to the current stick when

a member of the set of previously processed sticks belongs to any region and the current stick belongs to any region; and

assigning a new region identifier to the current stick when the current stick belongs to any region and no member of the set of previously processed sticks belongs to any region.

19. (original) The method of Claim 18, wherein each pixel of each stick are from a single raster line.

20. (original) The method of Claim 19, wherein each pixel of each stick are consecutive pixels of the single raster line.

21. (original) The method of Claim 19, wherein a size of each stick is a multiple of a word size of a SIMD processor.

22. (original) The method of Claim 18, wherein determining whether each stick belongs to any region from a set of region comprises:

determining whether any pixel of a current stick belongs to any region; and

classifying the current stick as belonging to any region when any pixel of the current stick belongs to any region.

23. (original) The method of Claim 22, wherein the determining whether any pixel of a current stick belongs to any region comprises comparing a binary classifier input value with a threshold level.

24. (original) The method of Claim 23, wherein the binary classifier input value is a color component.

25. (original) The method of Claim 23, wherein the binary classifier input value is a luminance value.

26. (original) The method of Claim 23, wherein the binary classifier is a chrominance value.

27. (original) The method of Claim 22, wherein the determining whether any pixel of a current stick belongs to any region comprises:

comparing a first binary classifier input value with a first threshold level;

comparing a second binary classifier input value with a second threshold level.

28. (cancelled)

29. (currently amended) The method of ~~Claim 28,~~ Claim 18, wherein the set of previously processed sticks comprises:

a preceding stick on the same raster row as the current stick;

a first stick on a preceding raster row; and

a second stick on the preceding raster row.

30. (original) The method of Claim 29, wherein the first stick is in a same row position as the current stick and the second stick is in a following row position of the current stick.

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31. (original) The method of Claim 18, further comprising characterizing each region of the set of regions.

32. (currently amended) ~~The method of Claim 31,~~ A method of segmenting an image having a plurality of pixels, the method comprising:

dividing the image into a plurality of sticks of pixels, wherein each stick contains at least two pixels;

determining whether each stick belongs to any region from a set of region;

classifying each stick that belongs to any region as belonging to a specific region of the set of regions, wherein each stick belongs to only one region; and

characterizing each region of the set of regions, wherein the characterizing each region of the set of regions comprises computing rectified moments for each region using a weighting table and unrectified image data.

33. (original) The method of Claim 32, wherein the weighted lookup table comprises pre-computed coefficient vectors.

34. (original) The method of Claim 33, wherein the pre-computed coefficient vectors are a product of a weight factor, a first pixel coordinate raised to a non-negative power, and a second pixel coordinate raised to a non-negative power.

35. (currently amended) A system of segmenting an image having a plurality of pixels, the system comprising:

means for dividing the image into a plurality of sticks of pixels, wherein each stick contains at least two pixels;

means for determining whether each stick belongs to any region from a set of region; and

means for classifying each stick that belongs to any region as belonging to a specific region of the set of ~~regions.~~ regions, wherein the means for classifying each stick that belongs to any region as belonging to a specific region of the set of regions comprises:

determining whether any member of a set of previously processed sticks belong to any region;

assigning an earliest region identifier of a set of previously processed sticks to the current stick when a member of the set of previously processed sticks belongs to any region and the current stick belongs to any region; and

assigning a new region identifier to the current stick when the current stick belongs to any region and no member of the set of previously processed sticks belongs to any region.

36. (original) The system of Claim 35, wherein each pixel of each stick are from a single raster line.

37. (original) The system of Claim 36, wherein each pixel of each stick are consecutive pixels of the single raster line.

38. (original) The system of Claim 36, wherein a size of each stick is a multiple of a word size of a SIMD processor.

39. (original) The system of Claim 35, wherein the means for determining whether each stick belongs to any region from a set of region comprises:

means for determining whether any pixel of a current stick belongs to any region; and

means for classifying the current stick as belonging to any region when any pixel of the current stick belongs to any region.

40. (original) The system of Claim 39, wherein the means for determining whether any pixel of a current stick belongs to any region comprises means for comparing a binary classifier input value with a threshold level.

41. (original) The system of Claim 40, wherein the binary classifier input value is a color component.

42. (original) The system of Claim 40, wherein the binary classifier input value is a luminance value.

43. (original) The system of Claim 40, wherein the binary classifier is a chrominance value.

44. (original) The system of Claim 39, wherein the means for determining whether any pixel of a current stick belongs to any region comprises:

means for comparing a first binary classifier input value with a first threshold level;

means for comparing a second binary classifier input value with a second threshold level.

45. (cancelled)

46. (currently amended) The system of ~~Claim 45,~~ Claim 35, wherein the set of previously processed sticks comprises:

a preceding stick on the same raster row as the current stick;

a first stick on a preceding raster row; and

a second stick on the preceding raster row.

47. (original) The system of Claim 46, wherein the first stick is in a same row position as the current stick and the second stick is in a following row position of the current stick.

48. (original) The system of Claim 35, further comprising characterizing each region of the set of regions.

49. (currently amended) ~~The system of Claim 44,~~ A system of segmenting an image having a plurality of pixels, the system comprising:

means for dividing the image into a plurality of sticks of pixels, wherein each stick contains at least two pixels;

means for determining whether each stick belongs to any region from a set of region;

means for classifying each stick that belongs to any region as belonging to a specific region of the set of regions; and

characterizing each region of the set of regions, wherein the characterizing each region of the set of regions comprises computing rectified moments for each region using a weighting table and unrectified image data.

50. (original) The system of Claim 49, wherein the weighted lookup table comprises pre-computed coefficient vectors.

51.   (original) The system of Claim 50, wherein the pre-computed coefficient vectors are a product of a weight factor, a first pixel coordinate raised to a non-negative power, and a second pixel coordinate raised to a non-negative power.

52.   (currently amended) A system of segmenting an image having a plurality of pixels, the system comprising:

means for dividing the image into a plurality of sticks of pixels, wherein each stick contains at least two pixels;

means for determining whether each stick belongs to any region from a set of region; and

means for classifying each stick that belongs to any region as belonging to a specific region of the set of regions, wherein each stick belongs to only one ~~region.~~ region, wherein the means for classifying each stick that belongs to any region as belonging to a specific region of the set of regions comprises:

means for determining whether any member of a set of previously processed sticks belong to any region;

means for assigning an earliest region identifier of a set of previously processed sticks to the current stick when a member of the set of previously processed sticks belongs to any region and the current stick belongs to any region; and

means for assigning a new region identifier to the current stick when the current stick belongs to any region and no member of the set of previously processed sticks belongs to any region.

53.   (original) The system of Claim 52, wherein each pixel of each stick are from a single raster line.

54.   (original) The system of Claim 53, wherein each pixel of each stick are consecutive pixels of the single raster line.

55.   (original) The system of Claim 53, wherein a size of each stick is a multiple of a word size of a SIMD processor.

56.   (original) The system of Claim 51, wherein the means for determining whether each stick belongs to any region from a set of region comprises:

        means for determining whether any pixel of a current stick belongs to any region; and

        means for classifying the current stick as belonging to any region when any pixel of the current stick belongs to any region.

57.   (original) The system of Claim 56, wherein the means for determining whether any pixel of a current stick belongs to any region comprises means for comparing a binary classifier input value with a threshold level.

58.   (original) The system of Claim 57, wherein the binary classifier input value is a color component.

59.   (original) The system of Claim 57, wherein the binary classifier input value is a luminance value.

60.   (original) The system of Claim 57, wherein the binary classifier is a chrominance value.

61.   (original) The system of Claim 56, wherein the means for determining whether any pixel of a current stick belongs to any region comprises:

means for comparing a first binary classifier input value with a first threshold level;

means for comparing a second binary classifier input value with a second threshold level.

62.   (cancelled)

63.   (currently amended) The system of ~~Claim 62,~~ Claim 52 wherein the set of previously processed sticks comprises:

a preceding stick on the same raster row as the current stick;

a first stick on a preceding raster row; and

a second stick on the preceding raster row.

64.   (original) The system of Claim 63, wherein the first stick is in a same row position as the current stick and the second stick is in a following row position of the current stick.

65.   (original) The system of Claim 52, further comprising means for characterizing each region of the set of regions.

66.   (currently amended) ~~The system of Claim 65,~~ A system of segmenting an image having a plurality of pixels, the system comprising:

means for dividing the image into a plurality of sticks of pixels, wherein each stick contains at least two pixels;

means for determining whether each stick belongs to any region from a set of region;

means for classifying each stick that belongs to any region as belonging to a specific region of the set of regions, wherein each stick belongs to only one region; and

means for characterizing each region of the set of regions, wherein the means for characterizing each region of the set of regions comprises means for computing rectified moments for each region using a weighting table and unrectified image data.

67.   (original) The system of Claim 66, wherein the weighted lookup table comprises pre-computed coefficient vectors.

68.   (original) The system of Claim 67, wherein the pre-computed coefficient vectors are a product of a weight factor, a first pixel coordinate raised to a non-negative power, and a second pixel coordinate raised to a non-negative power.